REMARKS/ARGUMENTS

Favorable reconsideration of the present application is respectfully requested.

Claims 1, 7, 10, 16 and 19 have been amended to recite that the heating unit is operative to simultaneously receive electric power from an electricity storage device and an electric power supplied from a commercial power supply. Basis for this is evident throughout the specification, as explained below.

It has been known to provide an image forming apparatus including a fuser with an electricity storage device which supplements the power from a commercial AC power supply, to thereby permit the fuser to heat up more rapidly when being activated from a standby state (page 3, lines 2-11). However, the conventional device involves frequent on/off switching of the switch for the electricity storage device, resulting in a short life for the switch.

According to a feature of the invention set forth in Claims 1, 10, and 19, the fusing apparatus, or an image forming apparatus including a fuser, includes a heating unit which generates heat based on electric power supplied from an electricity storage device, and a control unit or means for changing a rated power of the heating unit. For example, according to the embodiment of Figures 4A and 4B, the heaters 11 and 12 of the heating unit may be connected in parallel with a capacitor (electricity storage device) 18, or may be connected in series with the capacitor 18. The rated power of the heaters will therefore be different depending upon the form of connection, so that switching need be performed less often for maintaining a desired fuser temperature. Alternatively, (Figure 5) the heater 11 may be selectively connected to the capacitor 18 by a switch 25. In either case, the rated power of the heating unit or heating means which receives electric power from the electricity storage device can be changed to suit the required conditions.

Claims 7 and 16 instead recite that the control unit controls the heating unit to generate a controlled quantity of heat, comprising a first quantity in a first operation mode

and switching between second and third quantities in a second operation mode, the first quantity being larger than the second quantity that is larger than the third quantity. Thus, for example, the heating unit may be controlled to generate heat via the commercial power supply and the electricity storage device during warm up, whereas the power supplied through the electricity storage device may be reduced or terminated during operation of the fuser.

Claims 1-3, 5, 7-12, 14 and 16-19 were rejected under 35 U.S.C. § 102 as being anticipated by U.S. patent 6,393,233 (Soulier). However Applicants respectfully submit that the claims clearly define over this reference.

Soulier is directed to a printer fuser that is capable of providing the fuser with the required power *from a commercial power supply* under varying operating conditions. Thus, the power budget for the fuser 44 is flexible and is dynamically managed as a function of the total power available from the power supply 70 (column 7, lines 51-67). For example, the controller 66 may reduce power to other components to ensure that sufficient power is available to meet the requirements of the fuser 44 (column 8, lines 14-16), or may delay providing power to other high power demand components (column 8, lines 35-38).

Soulier thus recognizes that a fuser may have different power requirements under different operating conditions. However, Soulier has no teaching for a heating unit configured to generate heat "based on electric power supplied from [an] electricity storage device (Claims 1, 10 and 19), or a heating unit operative to simultaneously receive electric power from both the electricity storage device and a commercial power supply. Nor does Soulier teach controlling a heating unit to generate a controlled quantity of heat, wherein a first quantity in a first mode of operation is greater than second and third quantities in a second mode of operation (Claims 7 and 16). Accordingly, the amended claims define over the prior art.

Nor would the claimed invention have been obvious in view of Soulier taken in view of the conventional art having both a commercial AC power supply and an electricity storage device (present specification, page 3, lines 2-11). Soulier teaches that a fuser may have different power requirements under different operating conditions, but it also teaches that the printer power management should be controlled to satisfy the fuser power requirements: it does not teach changing a rated power of a heating unit supplied *from an electricity storage device.*

Claims 4 and 13 are directed to the embodiment whereby the heating units may be connected in parallel (e.g., Figure 4A) or in series (e.g., Figure 4B). Claims 4 and 13 were rejected under 35 U.S.C. § 103 as being obvious over Soulier in view of U.S. patent 5,229,577 (Matsuura et al), in which Matsuura et al was cited to teach resistance heaters selectively coupled either in series or in parallel. Mastsuura et al discloses an image forming apparatus which can be used with commercial power supplies having different voltages. It thus includes a voltage detector 64 and a controller which switches a power relay 101 as a function of the detected voltage. For example, the power relay 101 in Figure 5 is switched so that the heater elements 4A and 4B may be connected either in series or in parallel, depending upon the available voltage of the commercial power supply.

However, Matsuura et al would not suggest that a control unit should change a rated power of a heating unit which generates heat based on electric power *supplied from an electricity storage device*, by connecting the heating unit in series or in parallel according to different modes of operation. Rather, the selective connection in series or parallel in Matsuura et al is dependent upon the voltage of a commercial power supply. Accordingly, Claims 4 and 13 define over any combination of the above references.

Claims 6 and 15 recite that the electricity storage device is a capacitor. Claims 6 and 15 were rejected under 35 U.S.C. § 103 as being obvious over Soulier in view of U.S. patent 4,992,923 (Matsuya et al), which was cited to teach a capacitor in a circuit for power control and supply. However, regardless of what teaching Matsuya et al may have with respect to the use of capacitors for power control and supply, it does not teach or suggest that a control unit should change a rated power of a heating unit configured to generate heat based on electric power supplied from an electricity storage device, wherein the heating unit is operative to simultaneously receive electric power from the electricity storage device and electric power from a commercial power supply. Accordingly, Claims 6 and 15 also define over any combination of the above references.

The title has been corrected as required in paragraph 5 of the Office Action. Additionally, the specification has been amended to provide a description for element 86, and to delete reference to the steps S11, S12, S13, S21 and S22. The drawing objection is therefore believed to be moot.

Applicants note that the Examiner has not considered Japanese Patent Publication 2002-174988 cited on August 9, 2004 because a copy was allegedly not provided. Applicants are at this time submitting a copy of a date-stamped filing receipt dated August 9, 2004 which indicates the submission of an Information Disclosure Statement and a cited reference copy. Consideration of JP 2002-174988 is therefore respectfully solicited. For the Examiner's convenience, Applicants are submitting a further PTO form 1449 and a further copy of JP 2002-174988 including an English abstract.

Applicants therefore believe that the present application is in a condition for allowance and respectfully solicit an early Notice of Allowability.

Respectfully submitted,

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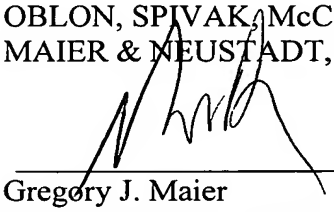

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